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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/943,829	08/31/2001	Gary Ditlow	BUR9-2000-0146-US1	2812
21254	7590	10/04/2004	EXAMINER	
MCGINN & GIBB, PLLC 8321 OLD COURTHOUSE ROAD SUITE 200 VIENNA, VA 22182-3817			TANG, KENNETH	
			ART UNIT	PAPER NUMBER
			2127	

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/943,829	<b>Applicant(s)</b> DITLOW ET AL.	
	<b>Examiner</b> Kenneth Tang	<b>Art Unit</b> 2127	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 October 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>8/31/01</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Claims 1-19 are presented for examination.

#### ***Specification***

2. Applicant is required to update the current status of the cross-reference to related applications in the introductory paragraph of the specification with the application number or patent number, if issued.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention:

- a. In claims 1, 7, 13, and 19, "all possible hosts" is indefinite because it is unclear whether or not this refers to the host processors in line 1.

4. Claims 13-19 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are:

- a. In claims 13 and 19, there is no structural relationship established between the “target parallel application process” and the “means for selecting from said listing of all possible computation resources a listing of computation resources based on sorting said calculated differences”.
- b. In claims 13 and 19, there is no structural relationship established between the “subset” in the preamble to anything else in the body of the claim.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 1-6 are directed to method steps, which can be practiced mentally in conjunction with pen and paper, therefore they are directed to non-statutory subject matter. Specifically, as claimed, it is uncertain what performs each of the claimed method steps. The examiner suggests applicant to change “method” to “computer implemented methods” in the preamble to overcome the outstanding 35 U.S.C. 101 rejections.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1-2, 4-5, 7-8, 10-11, 13-14, 16-17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robertazzi et al. (hereinafter Robertazzi) (US 6,370,560 B1) in view of Kimmel et al. (hereinafter Kimmel) (US 6,105,053).**

4. As to claim 1, Robertazzi teaches a method determining a listing of host processors on a network to perform a parallel application, comprising:

determining for each of said possible host a current capacity and a current utilization (*col. 6, lines 20-33, col. 2, lines 55-66, col. 3, lines 1-12*);

calculating for each of said possible host a difference (the segment portion of the load that is available to process) between said current capacity and said current utilization (*col. 6, lines 20-33, col. 2, lines 55-66, col. 3, lines 1-12*); and

sorting (by priority) said calculated differences (the segment portion of the load that is available to process) (*col. 1, lines 21-33, col. 6, lines 20-33*).

5. Robertazzi fails to explicitly teach determining and using a listing of all possible hosts on the network for performing the parallel application (*see Abstract*). However, Kimmel teaches a multiprocessing system having a listing in the form of a hierarchical tree structure that represents all the job processors in the network that can be used. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of having the listing of all possible hosts on the network for performing the parallel applications to the existing system because this increases the efficiency level of affinity and this helps to maintain balanced processor and memory loads (*see Abstract*).

6. As to claim 2, Robertazzi teaches wherein said determination of a listing of processors is itself a parallel processing application (*col. 1, lines 21-33*).

7. As to claim 4, Robertazzi inherently teaches providing said selected listing of hosts to an operating system controlling an execution of said parallel application because it is inherent that the computer processor has an operating system that gives the instructions for task management and parallel processing.

8. As to claim 5, it is rejected for the same reasons as stated in the rejection of claim 1. In addition, Robertazzi teaches the job queue or list containing quantification data but fails to explicitly teach it containing a history. However, "Official Notice" is taken that both the concept and advantages of providing that lists containing history information is well known and expected in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include lists containing history information to the existing system because this increase functionality and sophistication of the system if processes are executed based on the history.

9. As to claim 7, it is rejected for the same reasons as stated in the rejection of claims 1 and 4.

10. As to claim 8, it is rejected for the same reasons as stated in the rejection of claim 2.

11. As to claim 10, it is rejected for the same reasons as stated in the rejection of claim 4.
12. As to claim 11, it is rejected for the same reasons as stated in the rejection of claim 5.
13. As to claim 13, it is rejected for the same reasons as stated in the rejection of claims 1 and 4.
14. As to claim 14, it is rejected for the same reasons as stated in the rejection of claim 2.
15. As to claim 16, it is rejected for the same reasons as stated in the rejection of claim 4.
16. As to claim 17, it is rejected for the same reasons as stated in the rejection of claim 5.
17. As to claim 19, it is rejected for the same reasons as stated in the rejection of claim 1.
18. **Claims 3, 9, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robertazzi et al. (hereinafter Robertazzi) (US 6,370,560 B1) in view of Kimmel et al. (hereinafter Kimmel) (US 6,105,053), and further in view of Hoffberg et al. (hereinafter Hoffberg) (US 6,400,996 B1).**

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19. As to claim 3, Robertazzi teaches wherein said determination of a listing of processors is executed in parallel (see the rejection of claim 1) but fails to explicitly teach real-time processing. However, Hoffberg teaches parallel processing in real-time provides the advantage of eliminating delays associated with the implementation of complex calculations on general purpose computing devices (*col. 86, lines 26-33*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of real-time processing to the existing system in order to gain the advantages real-time processing described above.

20. As to claim 9, it is rejected for the same reasons as stated in the rejection of claim 3.

21. As to claim 15, it is rejected for the same reasons as stated in the rejection of claim 3.

22. **Claims 6, 12, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robertazzi et al. (hereinafter Robertazzi) (US 6,370,560 B1) in view of Kimmel et al. (hereinafter Kimmel) (US 6,105,053), and further in view of Hirata et al. (hereinafter Hirata) (US 2001/0054094 A1).**

23. As to claim 6, it is rejected for the same reasons as stated in the rejection of claim 1. However, Robertazzi in view of Kimmel fails to explicitly teach normalizing. Hirata teaches normalizing as an advantage to convert to a standard and common format. It would have been



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obvious to one of ordinary skill in the art at the time the invention was made to include the feature of normalizing to gain the advantage described above.

24. As to claim 12, it is rejected for the same reasons as stated in the rejection of claim 6.

25. As to claim 18, it is rejected for the same reasons as stated in the rejection of claim 6.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- **Gulsen (US 5,727,211)** teaches parallel processing that calculates and determines current capacity, current utilization, and availability of resources.

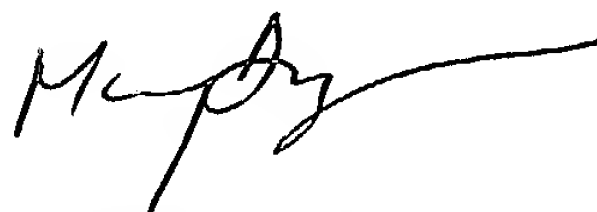
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Tang whose telephone number is (571) 272-3772. The examiner can normally be reached on 8:30AM - 6:00PM, Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kt  
9/27/04



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